REMARKS

This amendment is responsive to the Office Action dated October 31, 2007.

I. SUPPORT IN THE DISCLOSURE FOR THE CLAIM WORDING CHANGES AND THE NEW CLAIMS

1. Amended Claims 32 to 42

Claims 32 to 42 were rejected under 35 U.S.C. 112, first paragraph, for failing to comply with the written description requirement.

Paragraph 2 of the final Office Action stated that the specification did not reasonably convey to one skilled in the art that at least one alkali compound is released from the hollow glass body during thermal processing.

Steps a of the independent claims 32, 36, 40, and 42 have been amended so that they now have explicit support in the originally filed specification for the wording of these steps a. The step a) has been amended so that it now reads:

> **"clamping a hollow glass tube with an open upper end and an inner surface in a vertical orientation, said hollow glass tube having an alkali release during thermal processing of the hollow glass tube".**

Page 2, lines 9 to 12, of the applicants' originally filed specification teach that alkali compounds evaporate (in other words an alkali release occurs) during thermal processing of hollow glass bodies, such as glass tubes, and that the

evaporated alkali compounds (the released alkali) are deposited on surfaces of the glass body, which is especially problematical for food-containing or medicine-containing bottles made from the glass bodies.

Page 5, lines 9 to 10, of applicants' specification teach that alkali compounds evaporate (i.e. there is an alkali release) during the thermal processing in accordance with the present step a of the independent claims..

Page 8 of the applicants' originally filed specification provides explicit basis for step a) of the independent claims 32, 36, 40, and 42. Page 8, lines 6 and 7, teach clamping the glass tube 2 as shown in fig. 1 or 2in a vertical position. Fig. 1 shows that the upper end of the glass tube is open. Furthermore the upper end must be open according to page 8, lines 18 to 21, so that air 4 can be blown through the tube as shown in fig. 1. The same is true for the embodiment of fig. 2 since the stopper 5 is inserted in the open upper end of the glass tube. Page 8, lines 16 to 18, teach evaporation of alkali borates (alkali release) and deposition on the inner surface of the glass tube during and by thermal processing. Page 8, line 18, teaches that the thermal processing includes "opening" of the lower end of the glass tube to form the mouth of a bottle according to page 8, line 10, of the applicants' specification. Thermal processing is understood to include any thermal after working step including the step of cutting to length, as explained on page 2, line 20 to last line.

It is respectfully submitted that the disclosures on pages 2, 5, and 8 fully support steps a) of the independent claims 32, 36, 40, and 42.

Furthermore in view of the cited portions of pages 2, 5, and 8, of

applicants' specification it is respectfully submitted that "having an alkali release" in the steps a) of the independent claims could be replaced by "from which alkali compounds evaporate".

The wording added to the steps b of the independent claims is fully supported by the disclosures on page 8, lines 7 to 10, of the applicants' specification. However the wording "lower bottom" and "upper bottom" that is used in the specification was not used in the claims because it is believed to be confusing. However the term "bottom" used in the claims means the "upper bottom" of page 8, line 10, of applicants' specification and the term "tube piece" means the "lower bottom" of page 8, line 9, of applicants' specification. In accordance with M.P.E.P. 2163.07, rephrasing should not be a problem or create a lack of support issue. The same should be true of a change in terminology, especially a change that makes the claim easier to understand. If necessary the term "lower bottom" could also be changed in the specification to "lower piece" or "lower tube piece".

Furthermore the term "closed" bottom is no longer used for the "upper bottom" because there is no disclosure in the specification that states that the "upper bottom" is closed by cutting the tube through in the steps b) of the independent claims.

The wording that refers to the prior step in steps b) and c) of the independent claims is fully supported by the disclosures in the first paragraph of page 8 of applicants' specification. Also some support is provided by the first paragraph on page 5 of the applicants' specification.

The addition of the phrase "said thermal processing including said thermally opening said bottom and said thermally cutting to length" to steps d) of the independent claims is supported by the disclosures on page 2, line 20, to page 3, line 1, of applicants' specification, which teach that the "thermal processing" is to be understood as any after-working step that is performed after formation of the e.g. glass tube, which is necessary to make the bottle or ampoule. Page 3, line 1, teaches that particularly the thermal processing includes the "thermal opening" of the steps c. Also thermal cutting to length is also an after-working step, which would be obvious to one of ordinary skill in the glass arts.

The newly added wording that states that the through-going opening in the stopper in claims 32 and 40 "is dimensioned so that an overpressure..." is fully supported by page 6, lines 16 to last line, of the applicants' specification. The wording in claims 36 and 42 that states that the gas flows through the glass tube is supported by page 5, lines 16-17, of the applicants' specification.

The last paragraphs of the independent claims regarding reduction of the contamination of the inner surface of the hollow glass body during thermal processing is supported by the first two paragraphs on page 4 and the last paragraph on page 9 of the applicants' specification.

It is respectfully submitted that it has been shown that each of the changes in the amended claims 32 to 42 are fully supported by passages in the written description in applicants' specification in accordance with M.P.E.P. 714.02, 2163 and 2163.06. Thus the burden regarding any further rejection

based on 35 U.S.C. 112, first paragraph, has shifted to the USPTO in accordance with M.P.E.P. 2163.04.

Note that the mere rephrasing of a passage of the specification that is added to or present in the amended claims is acceptable under 35 U.S.C. 112, first paragraph (M.P.E.P. 2163.07). One of ordinary skill in the glass arts would understand that the invention claimed in independent claims 32, 36, 40, and 42 is fully supported by the disclosures in the applicants' specification.

Since specific support for each change of the amended independent claims 32, 36, 40, and 42 has been pointed out in the applicants' originally filed specification, withdrawal of the rejection of the amended claims 32 to 42 under 35 U.S.C. 112, first paragraph, is respectfully requested.

2. New Claims 43 to 46

Also a new set of claims 43 to 46 have been filed, which are limited regarding the composition of the glass tube. New independent method claims 43 and 45 contain similar method steps as the method steps in the amended independent method claims 32 and 36 respectively, except that the glass of the glass body is limited to FIOLAX® of the composition disclosed in the last paragraph on page 9 of applicants' specification and the alkali compound that is deposited on the inner surface of the glass tube is limited to sodium borate, which is known to be released during thermal processing, as explained on page 9, lines 17 to 19, and page 2, lines 9 to 11, of applicants' specification.

Reference is made to the above explanation regarding support for the

wording of claims 32 and 36 as an explanation of the support in the applicants' specification for the remaining wording in claims 43 and 45.

The wording of the first parts of dependent claims 44 and 46 (prior to "and") is explicitly supported by page 8, lines 10 to 11, of applicants' specification. The wording in the second parts of these dependent claims (after "and") is supported by page 8, lines 11 to 12, of applicants' specification.

Thus for the above reasons, it is respectfully submitted that new claims 43 to 46 should **not** be rejected under 35 U.S.C. 112, first paragraph, for failing to comply with the written description requirement.

II. The New and Amended Claims Particularly Point Out and Distinctly Claim the Applicants' Novel Methods

Claims 30 to 39 were rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.

Claims 32 and 36 do recite the term "thermal processing" in the body of the claims. This term is first recited in the steps a) of these claims and thus provides antecedent basis for the term when it is used in e.g. the steps d) of claims 32 and 36.

Furthermore the scope of the term "thermal processing" is defined in the Background Section" of applicants' specification and is not indefinite. Thermal processing steps according to page 2, lines 20 to 23, of applicants' specification are [thermal] after-working steps that occur after the finished glass tube has been

made, for example any [thermal] steps required to make the small glass bottle from the glass tube. Furthermore page 3, line 1, specifically states that thermal processing includes the thermal opening of the bottom of the steps c) of the independent method claims 32 and 36.

All the amended and new claims have been checked to be certain that antecedent basis for claim terms has been maintained, but note that the preambles are also a source of claim terminology.

For the foregoing reasons and because of the wording changes in the amended claims 30 and 36, withdrawal of the rejection of claims 30 to 39 under 35 U.S.C. 112, second paragraph, for indefiniteness is respectfully requested.

Furthermore it is respectfully submitted that new claims 43 to 46 should not be rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.

III. SPECIFICATION CHANGES

The first paragraph on page 9 of the specification contained some inappropriate or incorrect wording as a result of translation from German to English. The second sentence appears to state that the "stopper 5" .. has a "tube diameter of about 1.6 cm". One skilled in the glass arts would however understand that the sentence means that the stopper 5, which fits in the open end of the glass tube with a tube diameter of about 1.6 cm, has a through-going hole with a diameter of 2.5 mm. The sentence has been amended accordingly so

that its meaning is immediately apparent -- it provides an example of the proper dimensions of the through-going opening and stopper 5 -- that are required to provide the pressure balance between blowing the contaminating evaporated alkali compounds away from the inner surface of the glass tube and an explosive effect due to an internal tube pressure that is too great.

IV. OBVIOUSNESS REJECTION OF CLAIMS FOR THE EMBODIMENTS OF FIG. 2

The embodiments of the applicants' method shown in fig. 2 and described in relation to fig. 2 are claimed in amended claims 32 to 35 and 40 to 41 and in new claims 43 and 44.

1. Amended Claims 32 to 35 and 40 to 41

Claims 32 to 35 and 40 to 41 were rejected as obvious under 35 U.S.C. 103 (a) over Ritt, et al (US '998), in view of Bennett, et al (US '535). These claims claim the embodiment of the method illustrated in fig. 2.

In the embodiment of fig. 2 the overpressure that suppresses evaporation of the alkali compounds (page 5, lines 9 to 10, of applicants' specification), particularly sodium borate (page 9, lines 17 to 19 of the specification), during thermal processing is produced with a stopper provided with a through-going hole that is inserted in the upper open end of the hollow glass tube that is clamped in the bottle machine. However the through-going hole must in all cases *be dimensioned* (page 6, line 17; fig. 2) so that a pressure balance is established -- the overpressure must be sufficiently great to prevent contamination of the

inner surface by evaporation and deposition of the alkali compounds but not so great as to damage the glass tube and hinder following processing steps.

This embodiment of the method, which is claimed by claims 32 and 40, is a simple, rapid and economical way to produce the overpressure in the hollow glass tube during thermal processing that is necessary to suppress deposition of the contaminating alkali compound layer on the inner surface of the glass tube.

As noted in the Office Action Ritt, et al, do disclose partial closing (or opening) of the upper end of the glass tube piece during thermal processing in column 2, but their method steps are significantly different from the applicants' method steps. The method of Ritt, et al, does not comprise insertion of a stopper provided with a through-going hole in an open upper end of the tube. Instead Ritt, et al, completely close both ends of the glass tube at "6" (column 2, lines 30 to 39, and line 40) and then produce a dot-shaped opening 8 at its upper closed end (column 2, 40 to 50 and fig. 3), e.g. using a torch. Then during further thermal processing to make the ampoule or vial, such as opening the lower closed end to make the vial mouth, an overpressure is present in the glass tube piece. Of course it is conceivable to use the alkali-containing aluminosilicate glass of Bennet, et al, in the method of Ritt, et al.

However applicants are claiming a method, not the resulting glass bottle. Thus method-step limitations and advantages are especially relevant to patentability. In the present case applicants' claimed method of claims 32 and 40 is considerably better for making the bottles from a standard glass tube supplied by a manufacturer, especially in a bottle machine, because it does not comprise

closing the upper end, which requires considerable heat energy and work effort in comparison to simply inserting a stopper with a hole in it in the upper end of the glass tube from which the glass tube piece for the bottle is thermally cut. Furthermore it is better because it does **not** involve introducing of a pin hole or dot shaped hole at the upper closed end, which again requires use of a torch or heating element, expenditure of significant heat energy, and also additional work effort.

Furthermore, during formation of the dot-shaped opening thermally some deposition of alkali would occur on the inner surface, which is counter to the purpose of the applicants, since both ends of the tube piece are initially closed as explained in column 2 of Ritt, et al.

With respect to a legal conclusion of obviousness under 35 U.S.C. 103 (a), one skilled in the art would **not** find any hint or suggestion or motivation to employ a stopper with a through-going hole in it to provide the overpressure in the disclosures of US '998 (Ritt), instead of the dot-shaped opening as described in Ritt, et al. Bennett, et al, provides no motivation for using the stopper with the through-going hole instead of the dot-shaped opening.

Bennett, et al, was only cited because it discloses a method of making an ampoule from an alkali-containing borosilicate glass, which is not specifically cited in Ritt, et al. The method of Bennett, et al, differs from that of Ritt, et al, and comprises drawing the glass tube to form a constricted region with a narrow opening and cutting the glass tube as shown in figs. 4 to 12. After formation an ion exchange strengthening process takes place to make the tip especially

stronger.

Bennett, et al, is totally unconcerned with steps to prevent deposition of impurities in the interior of the vial or ampoule, which is produced with an open not-constricted end. Bennett, et al, is only cited for disclosure of an alkali-containing borosilicate glass that could be used in the method of Ritt, et al. Thus Bennett, et al, does not suggest the required modifications of the method of Ritt, et al, or provide any reasons for such modifications, which are required to arrive at the methods of applicants' claims 32 and 40, which claim a method in which a stopper with a through-going hole is used to provide the overpressure mentioned in column 2 of Ritt, et al, that prevents contamination of the inner surface of the glass tube.

The use of the stopper with the through-going hole has advantages, which are only obvious **in hindsight** from Ritt, et al, and Bennett, et al, given the disclosures in the applicants' originally filed specification. One skilled in the art would only arrive at the invention claimed in claims 32 and 40 from the method of Ritt, et al, using impermissible hindsight and the disclosure in the applicants' specification that teaches the advantages of using the stopper to provide the partial closure or constriction of the upper end of the glass tube. However many US judicial opinions have held that this sort of hindsight justification of an obviousness rejection is not permitted under 35 U.S.C. 103(a).

For example, the Federal Circuit Court of Appeals has said:

> "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.... It is impermissible to use the

claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

In re Fritch, 23 U.S.P.Q. 2nd 1780, 1783-84 (Fed. Cir.1992)

Furthermore according to the applicants' amended and new claims above, e.g. amended claim 32, a stopper with a through-going hole is placed in the upper open end of a glass tube to produce an overpressure during thermal processing. However the steps of thermally cutting the glass tube to length and thermally opening the bottom formed by the cutting to length are thermal processing steps, as now claimed in the amended and new claims. Thus according to applicants' method as it is now claimed the stopper with the hole is present during the thermal processing steps that are required to perform the claimed method. This is not the situation in the method of US '998 (Ritt, et al) because the dot-shaped opening is not present during the entire thermal processing, particularly the required step of closing the tube ends according to column 2, lines 30 to 40, which is basically the only way to arrive at the starting point of the claimed process in claims 1 and 6 of US '998. When the closed ends are formed in the method of Ritt, et al, they are at a high temperature and thus some evaporation of alkali compounds would occur while the closed ends are still hot. That is avoided in applicants' method utilizing the stopper with the through-going hole.

In addition, applicants' method utilizing the stopper with the through-going

hole requires less energy and less work than the method represented by any combination of the disclosures of Ritt, et al, and Bennett, et al, because it does not require first closing the tube ends and then puncturing the upper end of the tube at its closed upper end with a torch or the like.

Thus the method claimed in claims 32 and 40 has significant advantages over the method suggested by the combination of the disclosures of Ritt, et al, and Bennett, et al, as well as unobvious differences.

For the foregoing reasons and because of the changes in the wording of claims 32 and 40, withdrawal of the rejection of claims 32 to 35 and 40 to 41 as obvious under 35 U.S.C. 103 (a) over Ritt, et al (US '998), in view of Bennett, et al (US '535), is respectfully requested.

2. New Claims 43 and 44

New independent method claim 43 contains the same limitations as amended claims 32 and 40 as well as additional limitations and thus Ritt, et al, and Bennett, et al, do not establish a case of *prima facie* obviousness of claims 43 and 44 for the same reasons as in subsection 1 above.

In addition, new method claim 43 is limited to the FIOLAX® glass as described in the last paragraph on page 9 of the applicants' specification. The experimental results described in this paragraph show that the glass bottle made by the method of the claimed invention is unexpectedly better than commercially made glass bottles made by the same method except that the overpressure is not provided during thermal processing.

These experimental results support a conclusion that the method claimed in new claims 43 and 44 produces an unexpectedly better product, i.e. an unexpectedly better small glass bottle for pharmaceutical applications, which releases significantly less alkali contaminants.

Furthermore in accordance with M.P.E.P. 716.01 (a) objective evidence of unobviousness, such as that in the last paragraph on page 9 of applicants' specification, must be considered. There is a strong connection between the alkali release rates and the features of the methods of making the small bottle as required by M.P.E.P. 716.01 (b). Also the scope of claim 43 is commensurate with the experimental results reported in the last paragraph on page 9 of applicants' specification, because claim 43 is limited to the particular glass composition that is used to make the bottle (M.P.E.P. 716.02 (d)). Furthermore comparison is made to the closest prior art method that does not utilize the overpressure during thermal processing (M.P.E.P. 716.02 (e)).

For the foregoing additional reasons it is respectfully submitted that new claims 43 and 44 should not be rejected as obvious under 35 U.S.C. 103 (a) over Ritt, et al (US '998), in view of Bennett, et al (US '535).

V. OBVIOUSNESS REJECTION OF CLAIMS FOR THE EMBODIMENT OF FIG. 1

The embodiments of the applicants' method shown in fig. 1 and described in relation to fig. 1 are claimed in amended claims 36 to 39, 42, 45, and 46.

1. Amended Claims 36 to 39 and 42

Claims 36 to 39 and 42 were rejected as obvious under 35 U.S.C. 103 (a) over Ritt, et al (US '998), in view of Bennett, et al (US '535), and further in view of Schul and Mueller, et al.

In the embodiments of fig.1 the overpressure that suppresses evaporation of the alkali compound (page 5, lines 9 to 10, of applicants' specification), particularly sodium borate (page 9, lines 17 to 19 of the specification), during thermal processing is produced with a blower that provides an air flow through the upper open end of the hollow glass tube that is clamped in the bottle machine. This is a simple and rapid way to produce the overpressure in the hollow glass tube during thermal processing without introducing another thermal step by using e.g. a torch, as in Ritt, et al.

Ritt, et al, and Bennett, et al, have been described above. These references do not establish a case of *prima facie* obviousness of the amended claims 36 to 39 and 42 because neither Ritt, et al, or Bennett, et al, disclose conducting blower air 4 through the interior of the glass tube (page 5, last paragraph, and page 8, line 19, of applicants' specification) or blowing gas through the open upper end of the hollow glass tube during the thermal processing, e.g. as claimed in step d) of claim 36 or 42, to make the small bottle, ampoule or vial.

A source of gas or air and means for producing an air stream through the glass tube are not disclosed or suggested by either Ritt, et al, or Bennet, et al.

Schul or Mueller, et al, teach supplying an internal gas overpressure within

a hollow glass body that is being thermally shaped, but for an entirely different purpose from the applicants' claimed method or that of Ritt, et al.

According to Schul (US '022) the overpressure in the hollow glass cylinder 2 is provided to maintain an overpressure in its interior tube during thermal processing (column 2, lines 64 to 68). Schul explains further that the purpose of the overpressure is so that

"the tube will be urged from within against the graphite plates".

(see column 3, lines 6 to 14, of US '022). That is necessary to help solve the problem described in Schul, namely "production of tubes from transparent, translucent or opaque fused silica to extremely small tolerances with regarding to their outside diameter" (column 1, lines 61 to 66).

Both claims 36 and 42 claim a method including "blowing gas through its open upper end" to produce an overpressure in the glass tube "so that contamination of said inner surface ... by said alkali release is at least reduced" (last paragraph of both claims). Schul does not disclose or suggest the functional limitation in the last paragraph of both claims, that the blowing of the gas through the open end of the tube is conducted so that the contamination by the released alkali is at least reduced. The foregoing wording constitutes a functional limitation that defines the parameters and conditions for the blowing of the gas, such as flow rate, etc. that determine the magnitude of the overpressure and the ability of the blowing gas to reduce contamination of the surface. Functional limitations at the point of novelty are acceptable according to M.P.E.P. 2173.05 (g).

In order to produce the desired effect in Schul the overpressure must be

comparatively large so that the size of the hollow glass cylinder is maintained and the softened glass at the graphite plates 12 and 13 is forced against the graphite plates 12 and 13. In order to provide such comparatively large pressures the glass tube is substantially closed or nearly completely constricted at the end opposite the end supplied with the gas so that the flow of gas is reduced or halted. In contrast, the overpressure produced by conducting blower air 4 through the glass tube in the case of figure 1 need only be slight so that the gas flow through the tube is comparatively larger than in the case of Schul and the evaporating alkali compounds are rinsed from the tube by the gas flow as explained on page 5, lines 19 to 21, and page 8, line 18 to 21.

Note that applicants' explicitly teach that the needed overpressure is only slight (page 9, line 5, of applicants' specification) and that there must be a positive gas flow or gas stream through the glass tube during the thermal processing to rinse the contaminants from the interior of the tube. In contrast, a static pressure within the glass tube without any gas flow through the glass tube suffices for the purpose of Schul.

Consequently the overpressures of claims 36 and 42 and step d) of the claimed methods are different from the method disclosed in Schul (Schul only claims an apparatus, not a method) because a comparatively large static pressure without gas flow suffices in Schul. Schul only teaches "delivery" of forming gas through line 11 to provide an overpressure, but does not disclose flowing or blowing a gas *through* the hollow cylinder as required in claim 36 or 42, i.e. does not require a flow of gas through the hollow cylinder.

Certainly Schul does **not** disclose or suggest the functional limitation that the blowing of gas as claimed in steps d) of amended claims 36 and 42 such that "contamination of the inner surface by alkali release during thermal processing" is at least reduced, and does not require a flow of gas through the glass tube.

Turning to Mueller, et al, the disclosure of Mueller, et al, is even clearer regarding the difference between the blowing of the gas through the hollow glass tube according to applicants' amended claims 36 and 42, steps d), and the simple pressurization of the hollow glass tube according to Mueller, et al. Mueller, et al, teaches a source of air pressure 82 (which could be a compressed air tank) that supplies pressured air to the interior of the tube 82 so that its heat softened end portion can be shaped by the in the mold 22a,22b (column 9, lines 34 to 48). The pressure provided by the tank forces the softened portion of the glass tube against the walls of the mold 22a, 22b. However the open end of the glass tube is closed by the end plug 23, as shown e.g. in figs. 3c and 4b, so that there is no gas flow through the glass tube while it is pressurized; this is simply the use of a static pressure to force the softened glass against the mold walls.

Thus Mueller, et al, does not teach or suggest blowing gas through the hollow glass tube as claimed in steps d of amended claims 36 and 42. The ventilation channels 27,28 in the mold 22a,22b do **not** communicate with the interior of the hollow glass body; they are merely used to let the air between the outside of the glass body and the walls of the mold escape as the cylindrical glass body is slid into the mold. There are other uses of air pressure in Mueller, et al, as explained in column 6, lines 19 to 47, but they are not related to

pressurizing the interior of the hollow glass body or blowing gas through it.

One skilled in the art would not combine Mueller, et al, or Schul with Ritt, et al, in the manner suggested in the Office Action to obtain the method claims in claims 36 and 42, because one skilled in the art would not understand that the method of producing the overpressure must be controlled and conducted so that the required slight overpressure according to the functional limitation of claims 36 and 42 is produced. All that Mueller, et al, or Schul disclose is a method of pressurizing a hollow glass tube without regard to the magnitude of the pressure produced, without regarding to whether or not the tube is closed or partially open, and without regard to the relative location of gas supply and the thermal processing. First Mueller, et al, or Schul do not disclose or suggest that the gas supply for the gas flow should be introduced to the (upper) end of the hollow glass tube that is opposite to the end at which the thermal processing occurs (lower end or end that is opened during processing) as claimed in claims 36 and 42. The slight overpressure in applicants' claimed method is produced by a combinatio of the rising heated gases in the interior of the hollow glass tube (an upward flow) and the dominant downward forced gas flow through the upper open end of the tube as shown in fig. 1 and claim 36 or 42. There is no disclosure in Ritt, et al or Schul or Mueller, et al, to suggest that the overpressure should be produced by opposing flows originating from opposite ends of the glass tube as claimed in claim 36 or 42. Second there is no suggestion of the functional limitation that limits the gas flow introduced to the upper open end to flow rates and gases that at least reduce the contamination of the interior

surfaces of the glass tube in Ritt, et al, Schul, or Mueller.

According to many U. S. judicial opinions for a valid rejection under 35 U.S.C. 103 there must be some hint or suggestion in the prior art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

> "Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant...Even when obviousness is based on as single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." ***In re Kotzab***, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2000). See also M.P.E.P. 2141

There is no suggestion in the prior art generally to modify the discloses of Ritt, et al, by providing the overpressure in the open hollow glass tube of Ritt, et al, during thermal processing by the methods described in Schul and Mueller, et al, which produce a static pressure within a softened glass article for shaping purposes but do not produce a controlled rinsing gas flow through the interior of the article. Neither prior art reference suggests blowing a gas through the hollow glass tube, as claimed in steps d of claims 36 and 42.

Also Schul or Mueller, et al, do not suggest blowing gas **into the upper open end** of the glass tube, which is opposite to the lower end at which thermal processing, such as opening the bottom, occurs, in order to produce the overpressure.

With respect to the "Response to Arguments" on page 7 of the Office Action, Schul and Mueller merely disclose methods of pressurizing the interior of a glass tube, but do not disclose or suggest all the limitations of claims 36 and 42, especially steps d), which are lacking in the method of Ritt, et al. As far as the fan or blower goes, applicants' clearly disclose that the gas provided in the embodiment of fig. 1 can be blower air 4, which one skilled in the art would understand means air that is produced by a blower or fan on page 8, line 19, of applicants' specification.

For the foregoing reasons it is respectfully submitted that claims 36 to 39, 42, 43, 48 and 49 should **not** be rejected under 35 U.S.C. 103 (a) over Ritt, et al, in view of Bennett, et al, and in further view of Schul or Mueller, et al.

2. Claims 45 and 46

Claim 45 is an independent claim, which contains substantially the same features and limitations as claim 36 as well as the additional limitation to the FIOLAX® borosilicate glass, as described in the last paragraph on page 9 of applicants' specification. Claim 45 should be allowed for the additional reason that the comparative experimental data shows that the product of the claimed method is clearly improved in relation to a corresponding product that is made commercially without the step of providing the overpressure.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

/Michael J. Striker/

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